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- Published:**
- with international search report
  - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: CANCER ASSOCIATED PLEXINB1 MUTATIONS

(57) Abstract: The present inventors have identified cancer associated mutations in plexinB1, which is a transmembrane receptor that mediates semaphorin signalling. The frequency of plexinB1 mutations, in particular in prostate and breast cancer, indicates that plexinB1 may be useful in the screening and diagnosis of cancer and as a drug target in the development of anti-cancer therapeutics.

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A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C1201/68 G01N33/50

B. FIELDS SEARCHED

IPC 7 C120 G01N

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE, MEDLINE, CHEM ABS Data, SCISEARCH

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/31209 A (BUBENDORF LUKAS ;MOUSSES SPYRO (US); GOVERNMENT OF UNITED STATES O) 18 April 2002 (2002-04-18) plexin 5 is plexinB1 page 72; claims 52-58; table 1 ---	25, 36-39, 43-45
X	WO 01/54477 A (CAO YICHENG ;CHEN RUI HONG (US); HYSEQ INC (US); WANG ZHIWEI (US);) 2 August 2001 (2001-08-02) SEQ ID NO:257 = Plexin B1 table 2 ---	60
A	WO 02/059377 A (EOS BIOTECHNOLOGY INC) 1 August 2002 (2002-08-01)  claims 1-24 ---	1-45, 60-64, 66,67

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**Y** Patent family members are listed in annex.

\*& document member of the same patent family

**26/05/2004**

**Gabriels, J**

## INTERNATIONAL SEARCH REPORT

International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>AURANDT JENNIFER ET AL: "The semaphorin receptor plexin-B1 signals through a direct interaction with the Rho-specific nucleotide exchange factor, LARG"</p> <p>PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES, vol. 99, no. 19, 17 September 2002 (2002-09-17), pages 12085-12090, XP002278547</p> <p>September 17, 2002</p> <p>ISSN: 0027-8424</p> <p>the whole document</p>	1-45, 60-64, 66,67
A	<p>HAGA HISANORI ET AL: "Gene-based SNP discovery as part of the Japanese Millennium Genome Project: Identification of 190562 genetic variations in the human genome."</p> <p>JOURNAL OF HUMAN GENETICS, vol. 47, no. 11, 2002, pages 605-610, XP002278549</p> <p>ISSN: 1434-5161</p> <p>the whole document</p>	1-45, 60-64, 66,67
A	<p>BUETOW K H ET AL: "RELIABLE IDENTIFICATION OF LARGE NUMBERS OF CANDIDATE SNPS FROM PUBLIC EST DATA"</p> <p>NATURE GENETICS, NATURE AMERICA, NEW YORK, US, vol. 21, March 1999 (1999-03), pages 323-325, XP000995019</p> <p>ISSN: 1061-4036</p> <p>the whole document</p>	1-45, 60-64, 66,67
P,X	<p>WO 03/031930 A (KINZLER KENNETH W ; SAHA SAURABH (US); VOGELSTEIN BERT (US); BARDEL) 17 April 2003 (2003-04-17)</p> <p>claim 24</p>	25, 36-39, 43-45

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB 03/05223

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 52, 54-59, 65, 68-75  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy
2. ☒ Claims Nos.: 46-53  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

Continuation of Box I.2

Claims Nos.: 46-53

Present claim 46 relates to a method defined by reference to a desirable characteristic or property, namely comprising isolating and/or purifying the test compound.

The claim covers all methods having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for non of such methods. In the present case, the claim so lacks support, and the application so lacks disclosure, that a meaningful search over the claimed scope is impossible. Independent of the above reasoning, the claim also lacks clarity (Article 6 PCT). An attempt is made to define the method by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the claimed scope impossible. Consequently, no search has been carried out for claim 46.

Present claim 47 relates to a method defined by reference to a desirable characteristic or property, namely comprising modifying the test compound to optimise its pharmaceutical properties.

The claim covers all methods having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for non of such methods. In the present case, the claim so lacks support, and the application so lacks disclosure, that a meaningful search over the claimed scope is impossible. Independent of the above reasoning, the claim also lacks clarity (Article 6 PCT). An attempt is made to define the method by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the claimed scope impossible. Consequently, no search has been carried out for claim 47.

Present claims 48 and 49 relate to a method defined by reference to a desirable characteristic or property, namely comprising formulating said compound with a pharmaceutically acceptable excipient.

The claims cover all methods having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for non of such methods. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the method by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the claimed scope impossible. Consequently, no search has been carried out for claims 48 and 49.

Present claims 50-53 relate to a compound defined by reference to a desirable characteristic or property, namely being identified as a putative anti-cancer agent by the method of claim 45.

The claims cover all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for non of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compound by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the claimed scope impossible. Consequently, no search has been carried out for claims 50-53.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

# INTERNATIONAL SEARCH REPORT

International Application No

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International Application No

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